|  |  |
| --- | --- |
|  | |
| Lesson Title | **Solid Figures** |
| Subject/course/grade level | EnVision Math  4th grade |
| Introduction | What makes figures solid? Jot down thoughts in math journal |
| Lesson Length | 60 minutes |
| Materials | Vocabulary list, Word Sorts, Chart paper and pens, unlined index cards, Geosolids, EnVision Math Text |
| Lesson Overview | 1. Tap prior knowledge, evoke questions, spark interest through word sort  2. Concept development of *solid figure.* Use graffiti boards to explore properties of solid figures.  3. Discuss and define solid figures and their characteristics.  4. Connect concept to the environment and evaluate. |
| Tennessee Standards | Math  0406.4.21 Recognize two-dimensional faces of three-dimensional shapes.  Language arts  GLE 0401.2.1 Continue to develop oral language skills necessary for communication.  GLE 0401.2.2 Continue to develop listening skills necessary for communication.  0401.2.4 Formulate and respond to questions from teachers and group members. |
| Lesson Objectives | 1. Identify solid figures through literacy strategies.  2. Label solid figures with their distinctive characteristics. |
| **E**ngagement | **Word Sorts** (tap prior knowledge, spark interest, evoke questions)  Students work in groups to conduct an open word sort using vocabulary for the lesson. |
| **E**xploration | **Graffiti Boards** (collaborate to identify solid figures in everyday life)  Students will work in groups to list examples of solid figures that exist in the world around them, and the properties of solid figures. |
| **E**xplanation | **Think-Aloud**  Discuss various types of solid figures and show examples using Geosolids. Use vocabulary such as sides, vertices, and edges to identify types of figures. Use EnVision text as a reference for vocabulary and for additional examples. |
| **E**laboration | **Text Connections**  **Text-to-Text** (Connections to other math? Other subjects?)  **Text-to-Self** (Connections to familiar figures and objects?)  **Text-to-World** (Connections to environment in general?)  **Compare and Contrast**  Use a venn diagram to compare and contrast two dimensional and three dimensional figures. |
| **E**valuation | **Exit Card** (unlined): Sketch, name, label 3 kinds of solid figures. Include any questions from the lesson to be addressed by the teacher. |

**Vocabulary**

|  |  |  |  |
| --- | --- | --- | --- |
|  | length | width | height |
| prism | rectangle | face |  |
| base | pyramid |
| solid figure | cube | vertices | edge |
| vertex | square | sphere | cone |
| cylinder | line segment | flat surface | point |

In [geometry](http://en.wikipedia.org/wiki/Geometry) a **polygon** a [plane](http://en.wikipedia.org/wiki/Plane_(mathematics)) [figure](http://en.wikipedia.org/wiki/Shape) that is bounded by a [closed](http://en.wikipedia.org/wiki/Closed_curve) path, composed of a finite sequence of straight [line segments](http://en.wikipedia.org/wiki/Line_segment). These segments are called its *edges* or *sides*, and the points where two edges meet are the polygon's *vertices* or *corners*.